WHAT IS CLAIMED IS:

1. Circuitry for detecting a plurality of tonal signals each having a particular nature in either one of a frequency domain and a time domain while distinguishing the plurality of tonal signals from each other, comprising:

a rough frequency analyzing circuit for roughly analyzing an input signal in a frequency band with first accuracy in the frequency or time domain to thereby roughly distinguish the plurality of tonal signals to produce a first result, the frequency band consisting of a plurality of subbands;

a plurality of fine frequency analyzing circuits each assigned to particular one of the plurality of subbands which is associated with a particular target tonal signal of the plurality of tonal signals for detecting, in the particular subband, an attribute of a power variation of the target tonal signal with respect to time with second accuracy in a direction of the frequency or time domain to thereby finely identify the target tonal signal to produce a second result, the second accuracy being higher than the first accuracy; and

a control circuit for selectively enabling and disabling said plurality of fine frequency analyzing circuits in accordance with the second result;

whereby one of said plurality of fine frequency analyzing circuits is enabled which is selected under the control of said control circuit.

2. The circuitry in accordance with claim 1, further comprising a selecting circuit for selecting one of the second results to finally decide adequate one of the second results when the second results are contradictory to each other.

3. The circuitry in accordance with claim 2, wherein each of said plurality of fine frequency analyzing circuits comprises:

a detection validity calculating circuit for obtaining a degree of detection validity from the first result; and

a tone deciding circuit for deciding from the first result whether or not the target tonal signal is present to produce a third result;

said selecting circuit comprising a first comparator circuit interconnected to said plurality of fine frequency analyzing circuits for determining from the degrees of detection validity and the third result highest one of the degrees of detection validity.

4. The circuitry in accordance with claim 3, wherein said selecting circuit further comprises a second comparator connected to said first comparator for comparing the highest degree of detection validity with a threshold value to produce a tone detection signal when the highest degree of detection validity is not less than the threshold value.

5. The circuitry in accordance with claim 1, wherein said rough frequency analyzing circuit comprises:

a plurality of filters corresponding to the plurality of subbands for separating the frequency band of the input signal into corresponding components of the plurality of subbands;

a plurality of power calculators corresponding to said plurality of filters each for calculating power of corresponding one of the components; and

a plurality of comparators corresponding to said plurality of power calculators each for comparing the power calculated by associated one of said plurality of power calculators with a threshold value to thereby output a result of comparison;

said rough frequency analyzing circuit roughly distinguishing the tonal signals in accordance with the results of comparison to produce the first result.

6. The circuitry in accordance with claim 5, further comprising a threshold control circuit for controlling the threshold value in accordance with the attribute detected by said plurality of fine frequency analyzing circuits.

7. The circuitry in accordance with claim 3, wherein said detection validity calculating circuit comprises:

a signal power coefficient calculator for calculating a power coefficient from the first result;

a detection stability calculator for calculating a detection stability from the first result; and

a tone duration ratio calculator for calculating a duration of the target tonal signal to a decision period of time required for determining whether or not the target tone signal has been detected;

said detection validity calculating circuit calculating the degree of detection validity from the power coefficient, the detection stability and the duration of the target tonal signal.

8. A method of detecting a plurality of tonal signals each having a particular nature in either one of frequency and time domains while distinguishing the plurality of tonal signals from each other, comprising the steps of:

roughly analyzing an input signal in a frequency band with a first accuracy in the frequency or time domain to thereby roughly distinguish the plurality of tonal signals from each other to produce a first result, the frequency band consisting of a plurality of subbands;

detecting, in each of the plurality of subbands, an attribute of a power variation of a particular target tonal signal of the plurality of tonal signals which is associated with each subband with respect to time with a second accuracy

in a direction of the frequency or time domain to thereby finely identify the target tonal signal to produce a second result, the second accuracy being higher than the first accuracy; and

selecting the plurality of subbands to be subjected to said step of detecting the attribute in accordance with the second results.

9. The method in accordance with claim 8, further comprising the step of selecting one of the second results to finally decide adequate one of the second results when the second results are contradictory to each other.

10. The method in accordance with claim 9, wherein said step of detecting the attribute comprises the substeps of:

obtaining a degree of detection validity from the first result; and

deciding from the first result whether or not the target tonal signal is present;

said step of selecting one of the second results comprising the substep of determining highest one of the degrees of detection validity from the degrees of detection validity and the second results.

11. The method in accordance with claim 10, wherein said step of selecting one of the second results comprising the substep of comparing the highest degree of detection validity with a threshold value to produce a tone detection signal when the highest degree of detection validity is not less than the threshold value.

12. The method in accordance with claim 8, wherein said step of roughly analyzing the input signal comprises the substeps of:

separating, in each of the plurality of subbands, the frequency band of the input signal into corresponding components of the plurality of subbands;

calculating power of each of the components;

comparing each of the powers calculated with a threshold value to thereby output a result of comparison to produce a third result; and

roughly distinguishing the tonal signals in accordance with the third results.

13. The method in accordance with claim 12, further comprising the step of controlling the threshold value in accordance with the attributes detected.

14. The method in accordance with claim 10, wherein said step of obtaining the degrees of detection validity comprises the substeps of:

calculating a power coefficient from the first result;

calculating a detection stability from the first result; and

calculating a duration of the target tonal signal to a decision period of time required from the first result for determining whether or not the target tone signal has been detected;

said step of calculating the degrees of detection validity comprising the substep of calculating the degree of detection validity from the power coefficient, the detection stability and the duration of the target tonal signal.